United States Patent [19]

Scott et al.

[11] **Patent Number: 4,617,431**

[45] **Date of Patent: Oct. 14, 1986**

[54] **VOICE TUBE ASSEMBLIES FOR POST-AURICLE HEADSETS**

[75] Inventors: **Charles G. Scott; Robert L. Harris,** both of Aptos, Calif.

[73] Assignee: **Plantronics, Inc.,** Santa Cruz, Calif.

[21] Appl. No.: **557,432**

[22] Filed: **Dec. 2, 1983**

[51] **Int. Cl.**[4] **H04M 1/05**

[52] **U.S. Cl.** ..... **179/156 A;** 381/91; 181/20

[58] **Field of Search** ..... 179/156 A, 149, 152, 179/107 H; 181/20, 21, 22; 381/91, 69

[56] **References Cited**

U.S. PATENT DOCUMENTS

2,930,856	3/1960	Toht	179/107 H
3,633,705	1/1972	Teder	179/156 A
3,735,021	5/1973	Bonis	179/156 A
4,020,297	4/1977	Brodie	179/156 A
4,090,042	5/1978	Larkin	179/156 A
4,118,606	10/1978	Larkin	179/156 A
4,273,969	6/1981	Foley	179/156 A
4,289,938	9/1981	Zichy	179/156 A
4,335,281	6/1982	Scott	179/156 A

FOREIGN PATENT DOCUMENTS

716801	10/1954	United Kingdom .	
731830	6/1955	United Kingdom .	
1306999	2/1973	United Kingdom .	
1334183	10/1973	United Kingdom .	
2039191	7/1980	United Kingdom	179/107 H

Primary Examiner—Gene Z. Rubinson
Assistant Examiner—L. C. Schroeder
Attorney, Agent, or Firm—Arnold, White & Durkee

[57] **ABSTRACT**

A new voice tube assembly for post-auricle headsets is disclosed. In one aspect of the invention, first and second curved, rigid tubular sections are employed to connect a flexible main voice tube section with the top of a post-auricle capsule containing a microphone and a receiver. The curved, rigid tubing sections are rotatable to maximize positional flexibility. In a second aspect of the invention, a shaping wire is included throughout a substantial portion of the length of the main voice tube section. The shaping wire is employed in order to permit the use of thinner and lighter material for the main voice tube section, and to facilitate shaping of the main voice tube section to the geometry of the wearer's face and locating of the open end of the main voice tube section adjacent the wearer's mouth.

5 Claims, 2 Drawing Figures